# Range minimum - maximum temperatures changes differently across Europe

October 20th, 2015

Many impact studies assume that climate change results in changing daily minimum and maximum temperatures by the same amount and in the same direction. However, on local scales natural variability still plays a dominant role and can overshadow the global warming signal. For Europe this variability was quantified for the period 1950-2013 by quantifying trends in seasonal daily minimum temperature (defined as the 5th percentile of the daily temperature distribution for a season) and seasonal daily maximum temperature (95th percentile).

The results show that especially the hot extremes show significant increasing trends over central and eastern Europe, and significant decreasing trends mainly over Norway, south-eastern Europe, and Turkey. The cold extremes, on the other hand, experienced warming trends over Scandinavia and eastern Europe and cooling trends over south-eastern Europe, mainly over Turkey.

The extreme temperature range, thus, changes differently for different parts of Europe: it widens, for instance, for Madrid (warm extremes increase and cold extremes decrease) whereas it reduces for Trondheim (Norway) (a large upward trend in the cold extremes and a decrease of warm extremes).

Source: Franzke, 2015. Geophysical Research Letters 42: 6479-6484.

Photo: Sergiu Bacioiu (www.flickr.com)